MAT-3720US3 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| In re application of: | R. Imanaka | : Art Unit: | |
|-----------------------|---|-------------------|--------|
| Serial No.: | 09/631,542 | : Examiner: | |
| Filed: | August 3, 2000 | : | |
| FOR: | SERVER APPARATUS, SUBSCRIBER APPARATUS AND | RECEIVE | D |
| | INFORMATION ON DEMAND | DEC 2 8 200 | 00 |
| | SYSTEM | Technology Center | r 2600 |
| Patent No.: | | : Issued: | |

REQUEST FOR REFUND

(Improper charge of Deposit Account)

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DEC 2 6 2000

Technology Center 2600

Attention: Refund Section, Accounting Division, Office of Finance

SIR:

| I. | REFUNI | REQUEST |
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| | | |

This is a request for refund with respect to the charge to Deposit Account No. 18-0350 shown on the statement dated August 31, 2000 for the above-identified = 3 application.

Adjustment date: 12/22/2000 NVILLARI 88/18/2000 MGORDON 00000007 180350 09631542 patent. 92 FC:109 234.00 CR

A copy of the monthly statement in which the error referred to occurs, accompanies this request.

II. FEES CHARGED FOR WHICH REFUND IS REQUESTED

| | AMOUNT OF REFUND REQUESTED |
|---|----------------------------------|
| Filing fee | |
| Surcharge for filing the basic filing fee on a date later than the filing date of the application (37 CRF 1.16(e)) | |
| and/or | |
| Surcharge for filing the oath or declaration on a date later than the filing date of the application (37 CFR 1.16(e)) | |
| Extension of term | |
| month | |
| | \$234.00 |
| Issue fee | |
| Petition fee | |
| Patent maintenance fee | The de- |
| maintenance fee | |
| Patent maintenance fee surcharge | |
| Other | |
| | |
| TOTAL REFUND REQUESTED | \$234.00 |

III. EXPLANATION OF WHY CONTESTED CHARGE IS IN ERROR

On August 3, 2000, a Reissue Divisional Application was filed. Original patented claims 1-13 were bracketed and new claims 14-16 were added. Therefore our claim count was 3 claims with 3 independent. A check for \$690 was enclosed to cover the filing fee. The bracketed claims were overlooked and therefore the claims were miscalculated by the Patent Office.

IV. MANNER OF REFUND

Please make refund by

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refunding payment.

Respectfully submitted

Lawrence E. Ashery, Reg. No. 34,515

Attorney for Applicant

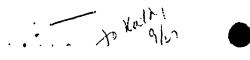
LEA/ap

Dated: October 10, 2000

Suite 301 One Westlakes, Berwyn P.O. Box 980 Valley Forge, PA 19482-0980 (610) 407-0700

The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 18-0350 of any fees associated with this communication.

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Page 1

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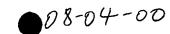
DIVISIONAL

REISSUE PATENT APPLICATION TRANSMITTAL

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| BROADINED REISSUR | Attorney Docket No. | MAT-3720US3 | |
| Address to: | First Named Inventor | Ryoichi Imanaka | 1 |
| Assistant Commissioner for Patent | S Original Patent Number | 5,790,172 | |
| Box Patent Application Washington, DC 20231 | Original Patent Issue Date (Month/Day/Year) | August 4, 1998 | |
| | Express Mail Label No. | EL635061797US | |
| APPLICATION FOR REISSUE OF: (check applicable box) Util | ty Patent Design P | atent Plant Patent | |
| APPLICATION ELEMENTS | ACCOMPANYING | APPLICATION PARTS | |
| Fee Transmittal Form (PTO/SB/56) (Submit an original, and a duplicate for fee processing) | 7. X Foreign Priority Cl (if applicable) | aim (35 U.S.C. 119) | |
| 2. X Specification and Claims (amended, if appropriate) | 8. X Information Disclo | | : |
| 3. X Drawing(s) (proposed amendments, if appropriate) | 9. English Translatio (if applicable) | n of Reissue Oath/Declaration | |
| 4. Reissue Oath / Declaration (original or copy) (37 C.F.R. § 1.175)(PTO/SB/51 or 52) | 10. Statement(s) | Statement filed in prior application, Status still proper and desired | |
| 5. Original U.S. Patent Offer to Surrender Original Patent (37 C.F.R. § 1.17 | 8) 11. Preliminary Amen | diment REC | EIVED |
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| 6. Original U.S. Patent currently assigned? | | by Assignee; | 1 |
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| X Written Consent of all Assignees (PTO/SB/53 or 54) | SMALL ENTITY FEES, A SMAL | ORDER TO BE ENTITLED TO PAY LENTITY STATEMENT IS REQUIRED | |
| X 37 C.F.R. § 3.73(b) Statement Power of Attorney | IS RELIED UPON (37 C.F.R. § | ONE FILED IN A PRIOR APPLICATION 1.28). | |
| 14. CORRESPOND | ENCE ADDRESS | | _ |
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| Name Jacques L. Etkowicz | | |] |
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| Country United States Telephone | (610) 407-0700 | Fax (610) 407-0701 | J |
| NAME (Print/Type) Jacques-Ly Etkowicz | Registration No. (Attorney/A | gen0 41,738 | |
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| REISSUE APPLICATION FEE | TRANSMITTAL FORM |
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| | (DIVISIONAL) MAT-3720US3 | | | | | | | | | | |
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| (C) 8 | Independent Claims (37 CFR 1.16(i)) | (D) | 3 | | 0 = | x \$= | | | ×\$ <u>78</u> = | | 0 |
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8/3/20 Date

Signature of Applicant, Attorney or Agent of Record

Jacques L. Etkowicz, Reg. No. 41,738

Typed or printed name

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1

SERVER APPARATUS, SUBSCRIBER APPARATUS AND INFORMATION ON DEMAND SYSTEM

BACKGROUND OF THE INVENTION

(1) Field of the Invention

The present invention relates to an information on demand system which provides information to subscribers through a CATV network and process improvement of a system in which subscribers pay charge to a server according to provided amount of information. Accordingly, in an information on demand system in accordance with the present invention, a plurality of different charging system are provided for every form which a subscriber utilizes the information.

(2) Description of the Prior Art

In an information on demand system such as CATV. an information provider (server) and users (subscribers) make contract each other. CATV cables are provided between the server and the subscribers and an information such as an 20 audio/video signal is provided from the server to the subscribers. In this case, there is basically only one charging system and the charging system is that the server periodically collects the same amount of charge even if the subscriber records an audio/video information provided by the 25 server in a video tape recorder (VTR. hereafter) or the like that at the subscriber (receiver) side or the subscriber merely listens/watches the same information by a television receiver without recording it in a VTR.

In the above-mentioned charging system, however, different charging systems can be set for the same CATV line.

Especially, since audio/video information becomes to be transmitted by a digital signal, if the audio/video information which is composed of a digital signal is recorded in a recording medium such as a digital video tape recorder ³⁵ (VTR). a copy which has no deterioration in audio/video quality compared with an audio/video information provided by the server can be obtained at the subscriber side. This is a problem from a view point of copyright protection.

SUMMARY OF THE INVENTION

An information on demand system in accordance with the present invention aims at making subscribers of CATV terminals pay adequate charge to a CATV server. It makes possible to control a recording/reproducing apparatus (ususlly called merely a recorder) and to record a received information in a recording medium. Using an information of demand system in accordance with the present invention, the subscribers can pay adequate charge to the server according to the purpose for which the subscribers use the received so information.

To solve the above-mentioned problem, an information on demand system in accordance with the present invention includes an information providing apparatus for providing an audio/video information according to a subscriber's request: a display terminal for displaying the audio/video information provided by the information providing apparatus: and a recording/reproducing apparatus for recording the audio/video information provided by the information providing apparatus: and is composed so that a different amount is charged to the subscriber among the case in which only the information is displayed on a display terminal, the case in which the information is recorded in a recording/reproducing apparatus and the case in which not only the information is displayed on a display terminal but also the information is recorded in a recording/reproducing appara-

Therefore, in a charging system of the information on demand system in accordance with the present invention, because the CATV server can check whenever the subscriber records a program provided to a recording medium through a CATV cable, the CATV server can charge at every subscriber's recording. In actual, a terminal controller writes at every time when recording is made and the server can check anytime if necessary.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of an information on demand system in accordance with a first exemplary embodiment of the present invention.

FIG. 2 is a block diagram of a display terminal used in an information on demand system in accordance with the first exemplary embodiment of the present invention.

FIG. 3 is a block diagram of an information on demand system in accordance with a third exemplary embodiment of the present invention.

FIG. 4 is a block diagram of a subscriber apparatus used in an information on demand system in accordance with a fourth exemplary embodiment of the present invention.

FIG. 5 is a flow chart of a writing/reading action of a subscriber apparatus used in an information on demand system in accordance with a fourth exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

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An information on demand system in accordance with exemplary embodiments of the present invention is explained below referring to drawings.

(First Exemplary Embodiment)

A block diagram of an information on demand system in accordance with a first exemplary embodiment of the present invention is shown in FIG. 1. The left side shows a 40 block diagram of a server apparatus at a server side of the system. The block 1 is a subscriber identification apparatus for reading an identification number (ID number, hereafter) for identifying every individual subscriber. Block 2 is an information providing apparatus for providing information 45 through a line 11. The information includes every information such as audio/video information such as movies, audio information such as music, town information showing what to see and where good restaurants are at sight-seeing spots and computer programs for games, etc.. Block 3 is a 50 subscriber's mode recognizing apparatus for recognizing which the information is given to a subscriber's display terminal or a subscriber's recording/reproducing apparatus. Block 4 is a charging apparatus for charging a different amount between the case in which the audio/video informa-55 tion is given to the subscriber's display terminal and the case in which the audio/video information is given to the subscriber's recording/reproducing apparatus. Block 5 is a charge registering apparatus provided for every subscriber and each charge registering appararus 5 corresponding to a 60 subscriber provided with an audio/video information accumulates the amount corresponding to the output of charging apparatus 4 based an a subscriber's identification information identified at subscriber identification apparatus 1.

The right side of Fig. 1 shows a block diagram of a subscriber apparatus at a receiver side of the system. Block 6 is a provided information designating apparatus for reporting the information which the subscriber requests to the

server. Block 7 is an information receiving apparatus for receiving the information which is provided from the server according to a subscriber's request. Block 8 is a subscriber's mode discriminating apparatus for discriminating which the output signal of information receiving apparatus 7 is pro- 5 vided to the subscriber's display terminal or to the subscriber's recording/reproducing apparatus and reports the subscriber's ID number to the server through line 11. Block 9 is a recording/reproducing apparatus for recording the provided audio/video information outputted from subscriber's mode discriminating apparatus 8. Although an optical disc is used as a recording/reproducing medium in the exemplary embodiment, any medium which can record and reproduce such as magnetic recording medium and semiconductor device may be used. Block 10 is a display terminal for outputting the audio/video information provided by subscriber's mode discriminating apparatus 8 as a sound and picture. Although a cathode ray tube (CKT, hereafter) is used as a picture display device in the exemplary embodiment. all devices which transmits information to a subscriber through 20 subscriber's five senses, such as a liquid chrystal display device, picture forming apparatus displaying information on a copyable medium like paper such as a printer can be used. The block II is a wired CATV line and anything which can transmit information such as wired lines like a telephone line and wireless means like satellite communication may be

The performance of an information on demand system composed as the above is explained below. In the exemplary embodiment, a CATV cable is used for line 11.

A subscriber designates an audio/video information which the subscriber wants to be provided through provided information designating apparatus 6. Provided information designating apparatus 6 transmits a subscriber's ID number and an ID number of a designated audio/video information to a 35 server side through line 11. When the server apparatus receives the subscriber's ID number and the ID number of a requested audio/video information, subscriber identification apparatus 1 identifies the subscriber's ID number. judges whether the subscriber's ID number is registered. If 40 the ID number is registered in the server side, the server outputs a signal to allow to provide the audio/video information to information providing apparatus 2 and if the ID number is not registered, the server outputs a signal to prohibit from providing the audio/video information to 45 information providing apparatus 2.

Information providing apparants 2 which was allowed to provide the audio/video information transmits the audio/video information which the subscriber had requested to information receiving apparatus 7 through line 11. Information receiving apparatus 7 demodulates (decodes) the received audio/video information. In the case in which the information signal is transmitted with a scrambled procedure, the signal is provided to subscriber's mode discriminating apparatus 8 after descrambling procedure. SS Subscriber's mode discriminating apparatus 8 outputs the audio/video information either to display terminal 10 such as a CRT or to recording/reproducing apparatus 9 according to the subscriber's request. At the same time, the subscriber's information is transmitted to subscriber's mode recognizing 60 apparatus 3 at the server side through line 11.

Subscriber's mode recognizing apparatus 3 which received an information from the subscriber outputs the information to charging apparatus 4. Charging apparatus 4 is set so that the charging amount is larger when the audio/ 65 video information is provided to the subscriber's recording/reproducing apparatus 9 than when provided to the subscrib-

er's display terminal 10 and outputs the charging amount to charge registering apparatus 5 according to the output of subscriber's mode recognizing apparatus 3. Charge registering apparatus 5 accumulates the charging amount provided from charging apparatus 4. The server can collect the charge from the subscriber every month according to the amount written in charge registering apparatus 5.

In the case of an audio/video information such as movies because it is necessary to record an audio/video information for several hours by a digital signal, an optical disk is used as recording/reproducing apparatus 9 in the exemplary embodiment.

(Second Exemplary Embodiment)

An information on demand system in accordance with a second exemplary embodiment of the present invention is explained below referring to FIGS. 1 and 2. The blocks having similar functions to those in the first exemplary embodiment are numbered with the same reference numbers.

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In FIG. 1. recording/reproducing apparatus 9 is a magnetic disk drive. Display terminal 10 includes a CRT 21. a central processing unit (CPU, hereafter) 22. a semiconductor memory 23. a reset circuit 24 and a timer 25 as shown in FIG. 2. Semiconductor memory 23 receives and writes an information transmitted from information providing apparatus 2 through subscriber's mode discriminating apparatus 8. CPU 22 executes a game according to an information from semiconductor memory 23. CRT 21 displays a picture corresponding to the execution result. Timer 25 outputs a signal at a designated time after the information is written in semiconductor 23. Reset circuit 24 resets and erases the information in semiconductor memory 23 according to the output signal of timer 25. A telephone line is used as a line 11.

The performance of the information on demand system is similar to that of the first exemplary embodiment. Because the information in semiconductor memory 23 of display terminal 10 is erased after a designated time, when the information is provided to display terminal 10, the subscriber can enjoy a game for the designated time.

According to such a configuration of the system it is possible to change a charging system between the case in which only one game is made and the case in which a game software is provided to the subscriber.

(Third Exemplary Embodiment)

An information on demand system in accordance with a third exemplary embodiment of the present invention is shown in FIG. 3. The blocks having similar functions to those in the first exemplary embodiment are numbered with the same reference numbers. The left side shows a block diagram of a server apparatus of the system and the right side shows a block diagram of a subscriber apparatus of the system.

Block 12 is a user's drive operating state logging apparatus for collecting information concerning to a user's drive operating state and has a configuration to collect each subscriber's charge and to write the charge information for every subscriber.

Charging apparatus 4 and charge registering apparatus 5 are included in the subscriber apparatus. Charging apparatus 4 charges a different amount between the case in which an audiovideo information is provided to display terminal 10 and the case in which the audio/video information is pro-

vided to recording/reproducing apparatus 9 according to the output of subscriber's mode discriminating apparatus 8. Charge registering apparatus 5 accumulates the charging amount according to the output of charging apparatus 4.

The subscriber designates the title name of the program 5 which the subscriber requests through provided information designating apparatus 6. Provided information designating apparatus 6 transmits the requested title name and the ID number to the server side the server side the requested title name and the ID number, the server outputs a signal to allow to provide the audio/video information to information providing apparatus 2.

Then, information providing apparatus 2 transmits the audio/video information which the subscriber requested to be provided to information receiving apparatus 7 through line 11. Information receiving apparatus 7 outputs a signal to subscriber's mode discriminating apparatus 8 outputs the signal to either display terminal 10 or recording/reproducing apparatus 9 according to the subscriber's request. At the same time, subscriber's mode discriminating apparatus 8 outputs a signal specifying which the audio/video informa- 20 tion is supplied to display terminal 10 or to recording/ reproducing apparatus 9 to charging apparatus 4. Charging apparatus 4 outputs a charge information from subscriber's mode discriminating apparatus 8 to charge registering apparatus 5. Charge registering apparatus 5 accumulates the 25 subscriber's charge amount according to the output signal from charging apparatus 4.

User's drive operating state logging apparatus 12 collects the charge which is asn information concerning to the subscriber's ID number and the user's drive operating state at every month and from every subscriber and writes the charge information for every subscriber. The server can collect the accumulated amount based an the written charge information at every month from every subscriber.

According to the above-mentioned system, a different charging system from a usual charging system can be set when a copy is made without any deterioration in sound/picture quality. Especially, when an analog signal is provided to display terminal 10 and a demodulated and descrambled digital signal is provided in recording/reproducing apparatus 9 as they are, because an audio/video information having nearly same sound/picture quality as the server's software can be recorded in a recording medium provided in recording/reproducing apparatus 9 at the subscriber side, it is signaificant to provide multi charging systems.

Because it is not necessary to identify a subscriber's ID number at every time when the audio/video information is provided to the subscriber, the construction at the server side is simple and the time taken for providing information can be shortened.

A similar effect can be obtained by a construction that charge registering apparatus 6 periodically informs the subscriber's charge to the server by that the server periodically visits the subscriber and checks the charge displayed at the subscriber side, even if the system has no user's drive 55 operating state logging apparatus 12 at the server side.

A construction without provided information designating apparatus 6 at the subscriber side can also set a different charging system from usual charging system when a copy without any quality deterioration in sound and picture is 60 made.

(Fourth Exemplary Embodiment)

A block diagram of a subscriber apparatus of an information on demand system in accordance with a fourth 65 exemplary embodiment of the present invention is shown in FIG. 4.

Symbol 32 is a line for transmitting signals such as CATV audio/video information to subscribers. A server apparatus 31 transmits an audio/video information which is channel encoded (modulated) after being scrambled for secret to a subscriber side through line 32. The audio/video information supplied from server apparatus 31 is a bit-stream with a packeted digital form. A decoder/descrambler 33 has a decoding function for decoding an encoded signal provided from server apparatus 31 and a descrambling function for converting a scrambled signal to an original audio/video signal.

A demultiplexer 34 converts a packet signal outputted from decoder/descrambler 33 into a parallel signal. Terminals 34a, 34b and 34c are output terminals to output a control data a compressed audio signal and a compressed video signal respectively. A video decompressor 35 decompresses the compressed video signal output terminal 34c into an original video signal. An audio decompressor 36 decompresses the compressed audio signal outputted from compressed audio signal outputted from compressed audio signal outputted from compressed audio signal output terminal 34b into an original audio signal. Terminal 37 is a video output terminal for supplying a video signal to a video signal input terminal of a television receiver and a VTR. Terminal 38 is an audio output terminal for supplying an audio signal to an audio signal input terminal of the television receiver and the VTR.

A terminal controller 39 manages the performance of the terminals by an input key 40 and a control data from control data output terminal 34a. An output of a recording/ reproducing apparatus 41 is supplied to terminal controller 39. That is, a receiver at the subscriber side includes a decoder/descrambler 33 which is a demodulator/ descrambler to demodulate and descramble an scrambled information transmitted from the server side, a terminal controller 39 which is supplied with an output signal of decoder/descrambler 33. outputs a signal to a recording/ reproducing apparatus 41 for recording an audio/video information in a recording medium in which a subscriber's ID number is written and controls supplying the output signal. Terminal controller 39 registers the subscriber's ID number which is written in a recording medium of recording/ reproducing apparatus 41 and the information ID number which is provided by the server when the subscriber finishes recording the audio/video information provided from the server in the recording medium of recording/reproducing apparatus 41.

Server apparatus 31 scrambles an audio/video information to provide to the subscriber for keeping secret, modu50 lates (encodes) it to a form fitting line 32 and transmits the
scrambled and modulated signal to the subscriber side
through line 32. Decoder/descrambler 33 which has received
the modulated signal through line 32 demodulates and
descrambles the received signal and the output signal is
released from scramble.

The performance when a provided audio/video information signal is outputted to a display terminal such as a television receiver is explained below.

The output signal of decoder/descrambler 33 is separated 60 into a control data signal at demultiplexer 34 and the separated signals are outputted. The compressed audio signal outputted from output terminal 34b is converted into an original audio signal at audio decompressor 36, the compressed video signal outputted from output terminal 34c is converted into an original video signal at video compressor 35. As a compression method, for example, an MPEG method is used. The control data signal, the compressed

video signal, the compressed audio signal from demultiplexer 34 and the output signal of decoder/descrambler 33 are inputted to terminal controller 39. Both the audio signal at terminal 34b and the video signal at terminal 34c are compressed digital bit-stream signals and they are supplied 5 to recording/reproducing apparatus 41 via terminal controller 39. The audio/video information is recorded in the recording meadium by recording (writing) the compressed digital bit-stream at recording/reproducing apparatus 41.

The performance when a provided audio/video informa- 10 tion signal is recorded and reproduced at recording/ reproducing apparatus 41 is explained below, referring to a flow chart shown in FIG. 5.

Recording/reproducing apparatus 41 is controlled by terminal controller 39. As an interface between recording/ 15 reproducing apparatus 41 and terminal controller 39, for example. SCSI-2 (ANSI standard X3. 13-199X) is used.

A recording medium is loaded on recording/reproducing apparatus 41. (action 51 in FIG. 5)

A program which the subscriber wants to record is selected with input key 40 and a write command is given to terminal controller 39. A subscriber's ID number to identify the subscriber and a title name of the program which the subscriber wants to record are written in a recording medium 25 of recording/reproducing apparatus 41. (action 52)

A recording/reproducing apparatus ID number to identify the recording/reproducing apparatus 41. the subscriber's ID number and the title name of the program are checked. (action 53)

When all the recording/reproducing apparatus ID number. the subscriber's ID number and the title name of the program are confirmed to be those already registered, recording in the recording medium starts with a following procedure.

When one or more than one of the recording/reproducing 35 apparatus ID number, the subscriber's ID number and the title name of the program are confirmed not to be those already registered, terminal controller 39 informs to the subscriber that the recording/reproducing apparatus ID number, the subscriber's ID number or the title name of the program is wrong. (action 54)

Then, terminal controller 39 gives a command to start recording to recording/reproducing apparatus 41. When the program which the subscriber requests is inputted through line 32. recording/reproducing apparatus 41 starts recording. (action 55)

When recording/reproducing apparatus 41 finishes recording, the fact that the recording finished is registered in terminal controller 39. (action 56)

Thus, the CATV server can manage the subscriber's charge, if necessary.

The subscriber apparatus is composed so that both the video signal and the audio signal outputted from video output terminal 37 and audio output terminal 38. 55 respectively, are outputted via terminal controller 39 as a compressed digital bit-stream and whether the ID number is written in the writing medium is checked at starting of recording and when the subscriber's ID number is not written, the audio/video information is not supplied to 60 recording/reproducing apparatus 41. Therefore, unless all the recording/reproducing apparatus ID number, the subscriber's ID number and the title name of the recorded program are registered, the subscriber can neither record the audio/video information in recording/reproducing apparatus 65 41 nor watch the program on the television receiver (display

Although a subscriber is identified by using a subscriber's ID number in the fourth exemplary embodiment of the present invention, a unique ID number of the recording/ reproducing apparatus itself may be used instead of the s subscriber's ID number. Similar effect is obtained in an information on demand system that an owner of the write/ read device is discriminated from the unique ID number of the recording/reproducing apparatus itself and the charge is collected from the owner of the recording/reproducing apparatus.

The system can be also composed so that the server registers the title name of the program for a particular program and when the subscriber wants to write the title name, the terminal controller can check at the terminal controller if the subscriber is requesting a server's approval.

The charging system can be made so that the information can be reproduced by only a recording/reproducing apparatus which was used to record the audio/video information and by any other reproducing apparatus. In this case, the system is composed so that the descramble apparatus is 20 connected to an arbitrary reproducing apparatus. the descramble apparatus certifies whether the medium in which the information was written has an approved ID number and only when reading from the medium certified by the descramble apparatus, the descramble apparatus performs 25 normally.

According to an information on demand system in accordance with exemplary embodiments of the present invention, when a copy without any deterioration of sound/ picture quality is made, a different charging system from usual charge can be set. Especially, when an analog signal is outputted to a recording/reproducing apparatus as they are. an audio/video information having almost same quality as the server's information is recorded in a recording medium of the recording/reproducing apparatus and it is significant 35 to provide with three charging systems.

Because programs and informations are always recorded/ written in recording medium based on a subscriber's ID number and a recording/reproducing apparatus ID number. it is possible to restrict a recording/reproducing apparatus used at reproducing.

The invention may be embodied in other specific form without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restructive, the scope of the invention being indicated by the appended claims rather than by the foregoing description and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed:

1. An information on demand system comprising:

a server apparatus for providing information according to a request from a subscriber:

display means for displaying said information provided by said server apparatus; and

recording means for recording said information provided by said server apparatus:

wherein a different amount is charged to said subscriber among a) in the case in which said information is provided to said display means. b) in the case in which said information is provided to said recording means and c) in the case in which said information is provided to said display means and to said recording means.

65 J2. An information on demand system comprising: information providing means for providing information according to a request from a subscriber:

information receiving means for receiving said information provided by said information providing means: display means for displaying a further information signal

output from said information receiving means: recording means for recording said further information signal of said information receiving means:

subscriber mode discriminating means for discriminating whether said further information signal of said information receiving means is provided to one of said 10 display means and said recording means:

charging means for charging a different amount among a) in the case in which said further information is provided to said display means. b) in the case in which said further information is provided to said recording means 15 and c) in the case in which said further information is provided to said display means and to said recording means according to an output of said subscriber mode discriminating means; and,

charge registering means for registering charge data out- 20 put from said charging means.

3. A server apparatus comprising:

subscriber identification means for reading an identifying information to identify a subscriber:

information providing means for providing information 25 according to a request from said subscriber:

subscriber mode recognizing means for discriminating whether said information providing means provides said information a) to a subscriber display means. b) to a subscriber recording means or c) to said subscriber display means and said subscriber recording means;

charging means for charging a different amount among a) in the case in which said information is provided to said subscriber display means. b) in the case in which said 35 information is provided to said subscriber recording means and c) in the case in which said information is provided to said subscriber display means and to said subscriber recording means according to an output of said subscriber mode recognizing means; and

charge registering means provided for every subscriber for registering a charge data output from said charging means: and wherein said charge registering means accumulates the charge data output from said charging means at said charge registering means corresponding 45 to said identifying information according to a discriminating information discriminated at said subscriber identification means.

A. A server apparatus comprising:

provided information designating means for providing 50 information requested by a subscriber to a server:

information receiving means for receiving said information provided by said server according to said subscriber request;

subscriber mode discriminating means for discriminating whether an information signal output from said information receiving means is provided a) to a display means. b) to a recording means or c) to both the display means and the recording means and informing said 60 subscriber through said information receiving means.

J5. A subscriber apparatus comprising:

information receiving means for receiving a provided information according to a request from a subscriber:

subscriber mode discriminating means for discriminating 65 whether a further information signal output from said information receiving means is provided a) to a display

means. b) to a recording means or c) to both said display means and said recording means:

charging means for charging a different amount among a) in the case in which said further information is provided to said display means. b) in the case in which said further information is provided to said recording means and c) in the case in which said further information is provided to said display means and to said recording means according to an output of said subscriber mode discriminating means; and

charge registering means for accumulating an amount output from said charging means.

- 6. A subscriber apparatus as recited in claim 5: wherein the charge registering means periodically informs the subscriber's charge to a server.
 - V7. A subscriber apparatus comprising:

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demodulating means for demodulating an information signal provided by a server; and

terminal control means for inputting a demodulated information signal of said demodulating means, outputting a signal to recording means which records said demodulated information signal in a recording medium in which a subscriber identification number is recorded and controlling supply of the output signal; and wherein

said terminal control means registers said subscriber identification number recorded in said recording medium of said recording means and an information identification number provided from said server in said terminal control means, when a subscriber finishes the recording of the information signal provided from said server in said recording medium of said recording means.

- 8. A subscriber apparatus as recited in claim 7; wherein said demodulated information signal is not output to said recording means, when the subscriber identification number is not recorded in the recording medium of said recording means.
- 9. A subscriber apparatus as recited in claim 7 or 8;
 - an identification number of said recording means is used instead of the subscriber identification number.
- 45 10. A subscriber apparatus as recited in claim 9 wherein: said subscriber is determined from the identification number of said recording means; and
 - a charge is collected from said subscriber.
- 11. A subscriber apparatus as recited in claim 10 wherein when the subscriber records information provided from an information providing apparatus, said information can not be recorded unless the subscriber is approved by the server.
 12. A method for providing information on demand comprising the steps of:
- 55 receiving a request from a subscriber requesting information:
- transmitting the information to at least one of a subscriber display means and a subscriber recording means for displaying and recording the information respectively.
 - charging the subscriber one of a plurality of amounts depending upon whether the transmitted information is intended for recording on said recording means.
- 65 wherein said request for information indicates whether the subscriber is recording said information on said recording means.

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13. An apparatus for providing information on demand comprising:

receiving means for receiving a request from a subscriber for information.

sending means for sending the information to at least one of a subscriber display means and a subscriber recording means for displaying and recording the information respectively, and

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[57] ABSTRACT

An information on demand system provides a user of a terminal (subscriber) information through a network such as CATV such that the user pays an adequate charge to a server (information provider). According to the information on demand system, the received information can be recorded in a recording medium under control of the terminal equipment. Cases in which 1) the subscriber merely watches a program on a television receiver and: 2) the subscriber records the program and watches it by reproducing the recorded information at another time are distinguished and the subscriber is charged a different amount by the server accordingly.

| 1 | 14. A recording medium for |
|----|---|
| 2 | recording information, said recording |
| 3 | medium comprising: |
| 4 | an identifier; |
| 5 | wherein said information is |
| 6 | recorded on said recording medium based |
| 7 | on a presence of said identifier; and |
| 8 | wherein recording of said |
| 9 | information on said recording medium |
| 10 | effects charges for said information. |
| 1 | 15.A recording medium, |
| 2 | comprising: |
| 3 | information; and |
| 4 | an identifier; |
| 5 | wherein said information is |
| 5 | recorded on said recording medium based |
| , | On a presence of said identifier, and |

| 8 | wherein recording of said |
|-----|--|
| 9 | information on said recording medium |
| 10 | effects charges for said information. |
| 1 | 16.A method for charging for |
| 2 | information, said method comprising the |
| 3 | steps of: |
| 4 5 | providing a recording medium having an identifier; |
| 6 | recording said information on |
| 7 | said recording medium based on a presence |
| 8 | of said identifier; and |
| 9 | allowing recording of said |
| 10 | information on said recording medium to |
| 11 | effect charges for said information. |



R: 882 P. 02

Practitioner's Docket No. MAT-3720IJS3

PATENT

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ASSENT BY ASSIGNEE FOR FILING OF REISSUE APPLICATION (DIVISION EDECEIVED

This is part of the application for a reissue parent filed herewith based on the original patent identified as follows:

DEC 2 8 2000

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Name of Patentee: Matsushita Electric Industrial Co., Ltd.

Patent Number: 5,790,172
Date Patent Issued: 08/04/1998

Title of Invention: SERVER APPARATUS, SUBSCRIBER APPARATUS AND INFORMATION ON

DEMAND SYSTEM

I am an assignee owning an undivided interest to the above original patent.

I assent to the accompanying application for reissue.

Attached is a "Certificate under 37 C.F.R. section 3.73(b)"

Matsushita Electric Industrial Co , Lad

Signature of person signing for assignee

Date: October 18, 2000

Dr. Osamu Yamazaki

Director

(Assent by Assignce for Filing of Keissue Application-page 1 of 1)

全部: 松下城間間サービス(氏) R:882 P. 03 Approved for undergraph 9/10/00 CMA 0651-0033

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| Name of Patentee(s) Rycichi Imanaka | | | |
| Patent Number 5,790,172 | Date Patent Issued | 4 4.1000 | |
| Title of Invention | | August 4, 1998 | |
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| I am the inventor of the original patent. | | | |
| I offer to surrender the original patent. | | | |
| 1. X Filed herein is a cortificate under 37 CFR | 3.73(6). | | |
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| Ryuichi Imanaka | | | |
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| Matsushita Electric Industrial Co., Ltd. | | | |
| Signature of person signing for assignee | Date | 10 0000 | |
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| Typed or printed name and title of person signing for as | signea | | |
| Dr. Osama Yamazakı Dire | ctor | | l |

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| As a below named inventor, I hereby declare that: | ••- |
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| I believe I am the original, first and sole Inventor (it only one name is its | sted below) or an original, first |
| and joint inventor (if plural names are listed below) of the subject matter | |
| in patent number 5,790,172 , granted August 4 | |
| roissue patent is sought on the invention entitled SERVER APPARATUS, SL | BSCRIBER APPARATUS AND |
| INFORMATION ON DEMAND SYSTEM | |
| the specification of which | |
| is attached hereto. | |
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| was filed on August 3, 2000 as reissue application r | number 09 / 631,542 |
| and was amended on August 3, 2000 | |
| (Ifapplicable) | |
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| I have reviewed and understand the contents of the above identified sp | ecification, including the claims, |
| as amended by any amendment referred to above. | |
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| by reason of the pateritee claiming more or less than he had the r | ight to claim in the patent. |
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| he features disclosed at column 2, lines 53-63 and column 7, lines | 20.25 |
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Additional joint inventors are named on separately numbered sheets attached hereto.

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Technology Center 2600

| ET 2 3 A | DECLARATION | | REGISTERED PRACTITIONER INFORMATION (Supplemental Sheet) | |
|------------------|------------------------|------------------------|--|------------------------|
| | Name | Registration Number | Name | Registration Number |
| | Kevin R. Casey | 32,117 | | |
| • | Benjamin E. Leace | 33,412 | | |
| | James C. Simmons | 24,842 | | · 1 |
| • | Lawrence E. Ashery | 34,515 | | |
| | Christopher R. Lewis | 36,201 | | |
| | Robert L. Andersen | 25,771 | | 1 |
| • | Daniel N. Calder | 27,424 | | |
| 2 -5 | Louis W. Beardell, Jr. | 40,506 | • | |
| - 13 - 13 | Jacques L. Etkowicz | 41,738 | | 1 1 |
| Ŋ | Jonathan H. Spadt | 45,122 | • | 1 |
| £. , | Joshua L. Cohen | 38,040 | |] |
| <u>}</u> | Jack J. Jankovitz | 42,690 | | |
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| Name of Patentee(s): | | | |
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| Ryoichi Imanaka | | | |
| Palent Number | Date Patent Issued | | |
| 5,790,172 | August 4, 1998 | | |
| Title of Invention SERVER APPARATI DEMAND SYSTEM | us, subscriber apparatus and information on | | |
| | _ is the assignee of the entire interest in the original patent. | | |
| I offer to surrender the original patent. | | | |
| A certificate under 37 CFR 3.73(b) is attached. | | | |
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| Name of Patentise(8): | | · · · · · · · · · · · · · · · · · · · | |
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| Palent Number 5,790,172 | Date of Patent Issued | ust 4 1998 | |

SERVER APPARATUS, SUBSCRIDER APPARATUS AND INFORMATION ON DEMAND SYSTEM

the specification of which is attached hereto. was filed on . August 3, 2000as reissue application number and was amended on ... August 3, 2000

09/631,542

(If applies ble) I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I believe said patentee(s) to be the original, first and sole/joint inventor(s) of the subject matter which is described and claimed in said patent, for which a reissue patent is sought on the invention ontitled

SERVER APPARATUS. SUBSCRIBER APPARATUS AND INFORMATION ON DEMAND SYSTEM

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I verify believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)

by reason of a defective specification or drawing.

by reason of the patentee claiming more or less than he had the right to claim in the patent.

by reason of other errors.

At least one error upon which reissue is based is described as follows:

During the prosecution of the application that issued as the above patent, the inventor, Ryoichi Imanaka, did not recognize that the features disclosed at column 2, lines 53-63 and column 7, lines 20-35 were appropriate to claim. As such, Mr Imanaka did not claim all that he had a right to claim. This error was made without deceptive intent.

[Attach additional sheets, if needed.]

All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant

[Page 1 of 2]

Burden Hour Statement; This form is mpicts. Time will very depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sont to this Claim influence of time you are required to complete this form should be sont to this Claim form the Commissioner for Patents, washington, CC 20231. OO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, washington, CC 20231.

Divisional

Name(s) Lawrence F. Ashery Jacques L. Etkowicz **Customer Number**

> OR Firm or X Individual

Namo

Address

Address

Country

Signature

Patentes

Patentes

Residence/Post Office Address

Telephone

declaration is directed.

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P1 U/SH/52 (Q8-99) raugh 9/30/00. OME 0851-0033 Approved for use Patent and Trademark Officer U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Aut of 1593, no yersons are required to respond to a collection of information unless a displays a railed OMD control number Dockst Number (Optional) (REISSUE APPLICATION DECLARATION BY THE ASSIGNEE, page 2) MAT-3720US3 I hersby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. Registration Number 34.515 41,738 Currespondence Address: Direct all communications about the application to: Place Customer Number Bar Code Label Here Type Customer Number Here Ramer & Prestia P.O. Box 980 Valley Forge Zip State 19482 PA (G10) 407-0700 Fax (610) 407-0701 I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under 18 U.S.C. 1 001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this Full name of person signing (given name, family name) Dr. Osamu Yamazaki, Director October 18, 2000 Address of Assignee 1006, Oaza Kadoma, , Kadoma-shi Osaka 571 Japan Citizenship Ryoichi Imanaka Japanese Residence/Post Office Address Residence Hirakata Iapan Post Office Address: 3-2-6, Kuzuha Mizaki, Hirakata shi, Ozaka 573 Japan Citizenship

[Page 2 of 2]

OCT 2 3 2000

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PTC/SE/02C (3-97)

Approved for use through 6/30/38, Ox48 0651-40/32

Palent and Trademark Office; U.S. OEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to reasond to a collection of information unless it contains a

wall OMR control number.

DECLARATION

REGISTERED PRACTITIONER INFORMATION (Supplemental Sheet)

| DECLA | DECLARATION | | DECLARATION REGISTERED PRACTITIONER INFORMATION (Supplemental Sheet) | | ATION |
|-------------------------|------------------------|------|---|--|-------|
| Name | Registration Number | Name | Registration Number | | |
| Kevin R. Casey | 32,117 | | | | |
| Benjamin E. Leace | 33,412 | • | 1 | | |
| James C. Simmons | 24,842 | | | | |
| Lawrence E. Ashery | 34,515 | | | | |
| Christopher R. Lewis | 36,201 | | | | |
| Robert L. Andersen | 25,771 | | | | |
| Daniel N. Calder | 27,424 | • | İ | | |
| Louis W. Beardell, Jr. | 40,506 | | · · | | |
| Jacques L. Etkowicz | 41,738 | | | | |
| Jonethan H. Spadt | 45,122 | | | | |
| Joshua L. Cohen | 38,040 | | | | |
| iack I Jankovitz | 42,690 | | | | |
| Christopher I. Halliday | 42,621 | | | | |
| Allan Ratner | 19,717 | | | | |
| Paul F. Prestia | 23,031 | | | | |
| Andrew L. Ney | 20,300 | | | | |
| Kenneth N. Nigon | 31,549 | • | | | |
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Technology Center 2600



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

OCT 2 3 2000

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Applicant: R. Imanaka

: Art Unit:

DEC 2 8 2000

Serial No.: Trooperstanding out 09/631,542

: Examiner:

Filed:

MODERAKE

August 3, 2000

Technology Center 2600

FOR: SERVER APPARATUS. SUBSCRIBER APPARATUS AND

INFORMATION ON DEMAND SYSTEM

CERTIFICATE UNDER 37 CFR 3.73 (b)

Assistant Commissioner for Patents Washington, D.C. 20231

SIR:

Matsushita Electric Industrial Co., Ltd., a Japanese Corporation certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of an assignment from the inventor of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel 7692, Frame 0439, for which a copy thereof is attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are helieved to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by

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P. 12

fine or imprisonment, or both, under Section 1001. Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

RECEIVED

DEC 2 8 2000

Technology Center 2600

Date

Name

October 18, 2000

:Dr. Osamu Yamazaki

Title

:Director

Signature

COETHELE CATEOR





P:889

P. 13

2 3 2000 1995

JAMES C. SIMMONS

RATHER & PRESTEA P.O. BOX 986

500 M. GULPH ROAD

VALLEY FORGE, PA 19492



UNITED STATES DEPARTMENT OF COMMERCE Patent and Trademark Office ASSESTANT SECRETARY OND COMMISSIONER CF PATENTS AND TRACEMARKS Wasnington, O.C. ECE31

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PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE HEAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE HAME APPEARS ON THIS NOTICE AT 703-309-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION. BOX ASSTGNMENTS, NORTH TOWER BUILDING, SUITE 10035, WASHINGTON, D.C. 20231.

RECORDATION DATE: 10/13/1995

REEL/FRAME: 7692/0439

NUMBER OF PAGES. 3

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Warief: Assignment of Assignor's interest (see ducument for detaile). O

LASSIGNOR:

IMANAKA, RYOICEI Ö

DCC DATE: 09/25/1995

Assignes:

MATSUSHITA FIECTRIC INDUSTRIAL CO., ETD. 1005 OAZA KADOMA, KADOMA-SHI OSAKA, JAPAN 571

SERIAL NUMBER: 08503604

FTT.ING DATE: 07/18/1995

ISSUE DATE. PATENT NUMBER:

JOANN STEWART, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS OCT 2 3 2000

No legalizacion required

ASSIGNMENT

RECEIVED

DEC 2 8 2000

WHEREAS, the ASSIGNOR, comprising the following named inventor(s)

Technology Center 2600

inventor(s)

SSIGNOR(s)/ NVENTOR(s) 1. Ryoichi Imanaka

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 has made an invention entitled:

SERVER APPARATUS, SUBSCRIBER APPARATUS AND INFORMATION ON DEMAND SYSTEM

and has executed an application for Lecters Patent of the United States concurrently herewith;

WHEREAS, the Assignee

SEICNEE Stll Nama .nd address)

Matsushica Electric Industrial Co., Lcd.

1006, Oaza Kadoma, Kadoma-ski, Osaka, 57; Japan

is desirous of acquiring the entity interest in and to said invention and the Detters Patent to be obtained therefor,

NOW, THEREFORE, in consideration of the payment by ASSIGNEE to ASSIGNOR of a sum corresponding to One Dollar (\$1.00), and for other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR, intending to be legally bound, hereby salls, assigns and transfers to ASSIGNEE, ics successors and assigns the full and exclusive right, citle and interest in and to said invention, all applications for metters Patent for said invention, including all divisions and continuations thereof, all rights to claim priority based thereon, and all metters patent, including reissues, to be obtained therefor, including any and all foreign potent rights in this invention corresponding thereto.

ASSIGNOR hereby warrance that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Assignment.

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ISIGNATURE .

- 2 -

ASSIGNOR agraes it shall be legally bound, upon request of the ASSIGNEE or its successors or assigns or a legal representative thereof, to supply all information and avidence of which the ASSIGNOR has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the ASSIGNEE, and to execute all instruments proper to carry out the intent of this instrument.

If the invention requires a biological deposit, ASSIGNOR also granes to ASSIGNEE such control over any deposic made by ASSIGNOR as may be necessary to the validity of the patent rights assigned herein.

ASSIGNOR authorizes ASSIGNOR's attorrey to insert at the end hareof the serial number and filling date of the aforesaid application for United States Letters Patone and/or the Attorney docken or file designation for this application.

If the ASSIGNOR includes more than one individual, these obligations shall apply to these individuals both individually and collectively.

IN WITNESS WHEREOF, this Assignment is executed on the day indicated below.

(Typed or Princed Name)

(Signacure)

(ひこころ)

1. Ryolchi Imanaka

Zacanora Sent. 26, 1995

Application for United States Letters Patent

Serial No. 08/303.60! Filed July 18. 1995.

Accorney Docker No. MAT 2720.

(Fi IJ

PTO/SB/53 (12-97)

Approved for use through 9/30/00. OMB 0651-0033

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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DIVISIONAL REISSUE APPLICATION BY THE INVENTOR, OFFER TO SURRENDER PATENT

Docket Number (Optional)

| OFFER TO SURRENDER PAT | MAT-3720US3 | | |
|--|---|--|--|
| | | | |
| This is part of the application for a reissue patent b | ased on the original patent identified below. | | |
| Name of Patentee(s) Ryoichi Imanaka | | | |
| Patent Number 5,790,172 | Date Patent Issued August 4, 1998 | | |
| Title of invention SERVER APPARATUS, SUBSCRIBER AP | PARATUS AND INFORMATION ON DEMAND SYSTEM | | |
| I am the inventor of the original patent. | | | |
| I offer to surrender the original patent. | | | |
| 1. X Filed herein is a certificate under 37 CFR 3.73(b). | | | |
| 2. Ownership of the patent is in the inventor(s), and no assignment of the patent has been made. | | | |
| One of boxes 1 or 2 above must be checked. | | | |
| The written consent of all assignees owning an undivided interest in the original patent is included in this application for reissue. | | | |
| Signature | Date | | |
| Typed or printed name | | | |
| Ryoichi Imanaka | | | |
| The assignee owning an undivided interest in said or and the assignee consents to the accompanying app | iginal patent is <u>Matsushita Electric Industrial Co., Ltd.</u> , lication for reissue. | | |
| I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application, any patent issued thereon, or any patent to which this declaration is directed. | | | |
| Name of assignee | | | |
| Matsushita Electric Industrial Co., Ltd. | | | |
| Signature of person signing for assignee | Date | | |
| Typed or printed name and title of person signing for | assignee | | |
| Dr. Osamu Yamazaki Di | rector | | |

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MAT-3720US3 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: R. Imanaka

: Art Unit:

Serial No.: To Be Assigned

: Examiner:

Filed:

Herewith

FOR:

SERVER APPARATUS,

SUBSCRIBER APPARATUS AND

INFORMATION ON DEMAND SYSTEM

CERTIFICATE UNDER 37 CFR 3.73 (b)

Assistant Commissioner for Patents Washington, D.C. 20231

SIR:

Matsushita Electric Industrial Co., Ltd., a Japanese Corporation certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of an assignment from the inventor of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel 7692, Frame 0439, for which a copy thereof is attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by The first great right and the sense of these on the first great was one that their

fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

| Date | : | |
|-----------|---------------------|-------------|
| Name | :Dr. Osamu Yamazaki | |
| Title | :Director | |
| Signature | ÷ | |



UNITED STATES DEPARTMENT OF COMMERCE Patent and Trademark Office

ASSISTANT SECRETARY AND COMMISSIONER OF PATENTS AND TRACEMARKS Washington, D.C. 20231

MARCH 08, 1996

JAMES C. SIMMONS RATNER & PRESTIA P.O. BOX 980 500 N. GULPH ROAD VALLEY FORGE, PA 19482 REGEIVED 'N77 ; F ,668

RATNER & PRESTIA

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RECORDATION DATE: 10/13/1995

REEL/FRAME: 7692/0439

NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

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IMANAKA, RYOICHI

DOC DATE: 09/26/1995

ASSIGNEE:

MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. 1006 OAZA KADOMA, KADOMA-SHI OSAKA, JAPAN 571

SERIAL NUMBER: 08503604

FILING DATE: 07/18/1995

PATENT NUMBER: ISSUE DATE:

JOANN STEWART, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS MAT-3600

No legalization required

ASSIGNMENT

WHEREAS, the ASSIGNOR, comprising the following named inventor(s)

Inventor(s)

ASSIGNOR(s)/ INVENTOR(s) Ryoichi Imanaka

TU

Ξ.

has made an invention entitled:

SERVER APPARATUS, SUBSCRIBER APPARATUS AND INFORMATION ON DEMAND SYSTEM

and has executed an application for Letters Patent of the United States concurrently herewith;

WHEREAS, the ASSIGNEE

ASSIGNEE (Fill Name and address)

Matsushita Electric Industrial Co., Ltd.

1006, Oaza Kadoma, Kadoma-shi, Osaka, 571 Japan

is desirous of acquiring the entire interest in and to said invention and the Letters Patent to be obtained therefor,

NOW, THEREFORE, in consideration of the payment by ASSIGNEE to ASSIGNOR of a sum corresponding to One Dollar (\$1.00), and for other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR, intending to be legally bound, hereby sells, assigns and transfers to ASSIGNEE, its successors and assigns the full and exclusive right, title and interest in and to said invention, all applications for Letters Patent for said invention, including all divisions and continuations thereof, all rights to claim priority based thereon, and all Letters Patent, including reissues, to be obtained therefor, including any and all foreign patent rights in this invention corresponding thereto.

ASSIGNOR hereby warrants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Assignment.

ונוקה ומבר ברבה ברים ברים.

ASSIGNOR agrees it shall be legally bound, upon request of the ASSIGNEE or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the ASSIGNOR has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the ASSIGNEE, and to execute all instruments proper to carry out the intent of this instrument.

If the invention requires a biological deposit, ASSIGNOR also grants to ASSIGNEE such control over any deposit made by ASSIGNOR as may be necessary to the validity of the patent rights assigned herein.

ASSIGNOR authorizes ASSIGNOR's attorney to insert at the end hereof the serial number and filing date of the aforesaid application for United States Letters Patent and/or the Attorney docket or file designation for this application.

If the ASSIGNOR includes more than one individual, these obligations shall apply to these individuals both individually and collectively.

IN WITNESS WHEREOF, this Assignment is executed on the day indicated below.

(Typed or Printed Name)

(Signature)

(Date)

1. Ryoichi Imanaka

Sept. 26, 1995

SIGNATURE .

Application for United States Letters Patent Serial No. <u>08/503,604</u> Filed <u>July 18, 1995</u>,

Attorney Docket No. MAT-3720.

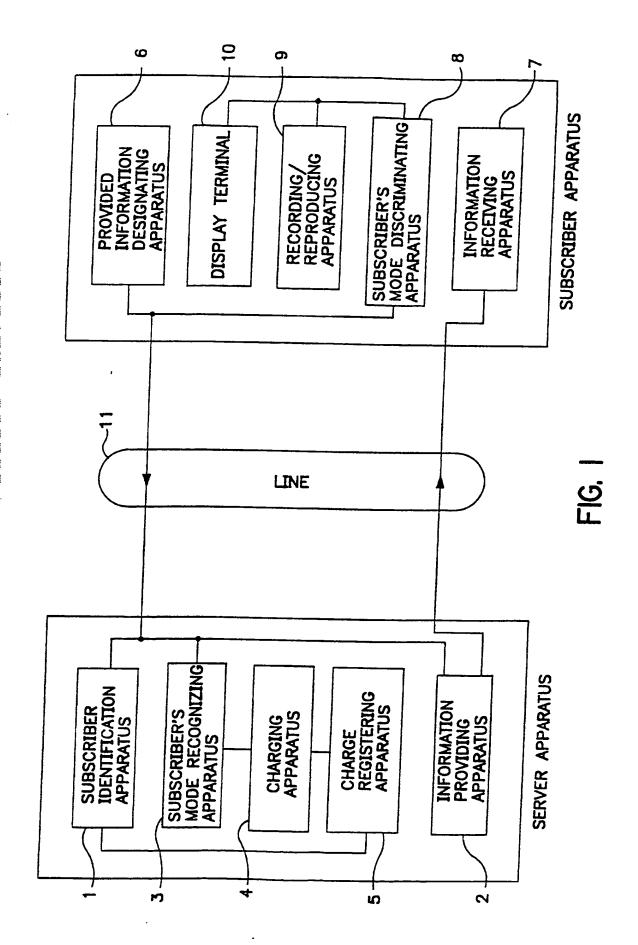
REQUEST FOR TRANSFER OF DRAWINGS FROM ORIGINAL PATENT TO REISSUE APPLICATION

Please transfer the drawings from original patent, 5,790,172, filed on July 18, 1995, for the invention entitled SERVER APPARATUS, SUBSCRIBER APPARATUS AND INFORMATION ON DEMAND SYSTEM to the reissue application, the specification of which is attached hereto.

Date: 8/3/00

Lawrence E. Ashery, Reg. No. 34,515 Jacques L. Etkowicz, Reg. No. 41,738

Ratner & Prestia P.O. Box 980 Valley Forge, PA 19482



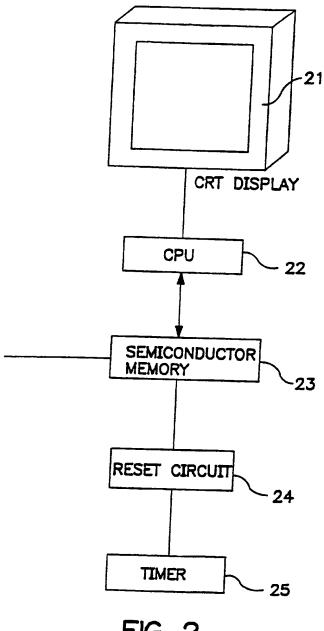
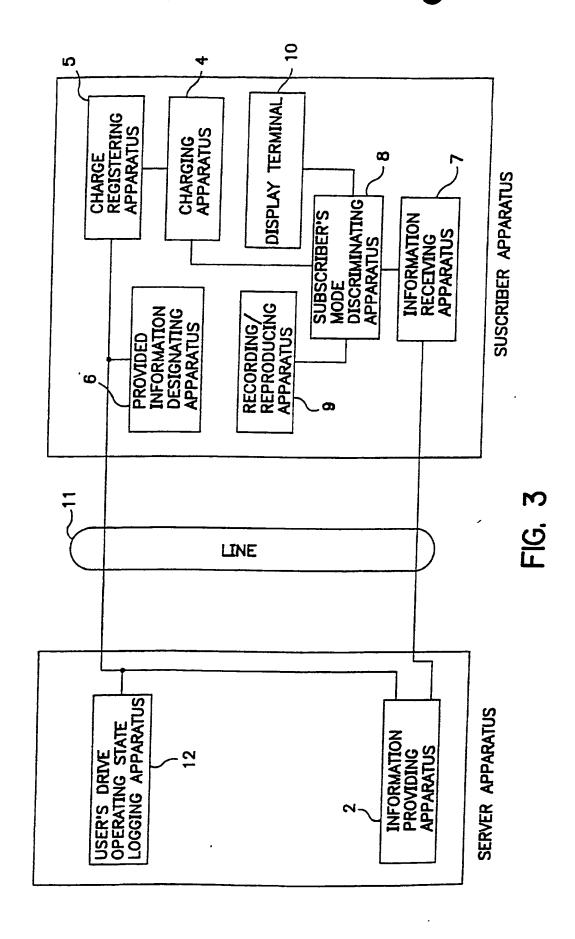


FIG. 2



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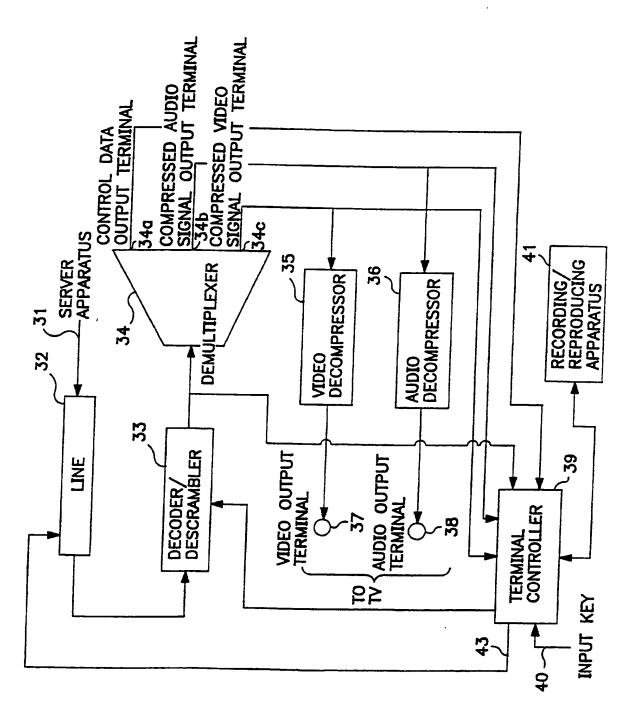


FIG. 4

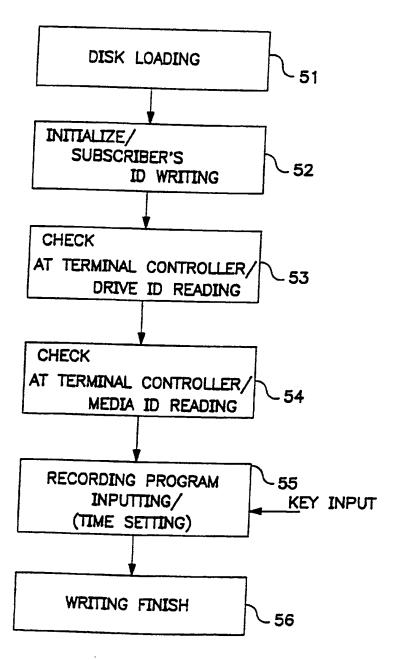


FIG. 5

PTO/SB/51 (12-97)
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|] | DIVISIONAL | Docket Number (Optional) |
|---------------|--|--|
| 1 | REISSUE APPLICATION DECLARATION BY THE INVENTOR | MAT 2020MG2 |
| } | | MAT-3720US3 |
| | As a below named inventor, I hereby declare that: My residence, post office address and citizenship are stated below next I believe I am the original, first and sole inventor (if only one name is list and joint inventor (if plural names are listed below) of the subject matter in patent number | to my name. ted below) or an original, first which is described and claimed 1998 and for which a |
| | | |
| and and then | was filed on as reissue application n and was amended on | umber/ |
| | (Ifapplicable) | |
| ; | (| |
| [د | I have reviewed and understand the contents of the above identified spe | ecification, including the claims, |
| Laar & U ronk | as amended by any amendment referred to above. | |
| : : | I acknowledge the duty to disclose information which is material to pate 37 CFR 1.56. | entability as defined in |
| 1 | I verily believe the original patent to be wholly or partly inoperative or in | valid, for the reasons described |
| į | below. (Check all boxes that apply.) | , |
| Hand thank | by reason of a defective specification or drawing. | |
| ال | x by reason of the patentee claiming more or less than he had the r | ight to claim in the patent. |
| T. T. | by reason of other errors. | · |
| - | At least one error upon which reissue is based is described as follows: | |
| | During the prosecution of the application that issued as the above the features disclosed at column 2, lines 53-63 and column 7, lines As such, I did not claim all that I had a right to claim. This error wintent. | 20-35 were appropriate to claim. |
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[Page 1 of 2]

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PTO/S8/51 (12-97)
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| (REISSUE APPLICATION DECLARATION BY THE INVENTOR, page 2) | | | | umber (Optional) 20US3 | | |
|--|---|------------------------|---|---------------------------|--|--|
| All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant. As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. | | | | | | |
| Name(s) | Registration Num | | | | | |
| Lawrence E. As | | 4,515 | . · · · · · · · · · · · · · · · · · · · | | | |
| Jacques L. Etko | | 1,738 | | | | |
| Correspondence Address: Direct all communications about the application to: Customer Number Type Customer Number here Place Customer Number Be Code Label here | | | | | | |
| Firm or Individual Name | Ratner & Prestia | | | | | |
| Address | P.O. Box 980 | | | | | |
| Address | <u> </u> | | | | | |
| City | Valley Forge | State P | A | ZIP 19482 | | |
| Country | United States | | | <u></u> | | |
| Telephone | 610-407-0700 | Fax 6 | 510-407-07 | 01 | | |
| application, any pa | J.S.C. 1001, and that such willful false statent issuing thereon, or any patent to white first inventor (given name, family name) | ch this declaration is | | | | |
| Basidanas | | Date | | | | |
| Post Office Addres | Citizenship | | | | | |
| Japan Japan | Japanese | | | | | |
| Full name of secon | d joint inventor (given name, family name |) | | | | |
| Inventor's signature | 3 | Date | | · | | |
| Residence | Residence Citizenship | | | | | |
| Post Office Address | | | | | | |
| Full name of third joint inventor (given name, family name) | | | | | | |
| Inventor's signature | Date | | | | | |
| Residence Citizenship | | | | | | |
| Post Office Address | | | | | | |
| Additional joint inventors are named on separately numbered sheets attached hereto. | | | | | | |

PTO/SB/02C (3-97)

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DECLARATION

REGISTERED PRACTITIONER **INFORMATION** (Supplemental Sheet)

| Name | Registration Number | Name | Registration Number |
|-------------------------|------------------------|------|------------------------|
| Kevin R. Casey | 32,117 | | |
| Benjamin E. Leace | 33,412 | | • |
| James C. Simmons | 24,842 | | |
| Lawrence E. Ashery | 34,515 | | |
| Christopher R. Lewis | 36,201 | | |
| Robert L. Andersen | 25,771 | | |
| Daniel N. Calder | 27,424 | | |
| Louis W. Beardell, Jr. | 40,506 | | · |
| Jacques L. Etkowicz | 41,738 | | |
| Jonathan H. Spadt | 45,122 | | |
| Joshua L. Cohen | 38,040 | | |
| Jack J. Jankovitz | 42,690 | | |
| Christopher I. Halliday | 42,621 | | |
| Allan Ratner | 19,717 | | |
| Paul F. Prestia | 23,031 | | |
| Andrew L. Ney | 20,300 | | |
| Kenneth N. Nigon | 31,549 | | |
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PTO/SB/52 (08-99)

Approved for use through 9/30/00, OMB 0651-0033

Patent and Trademark Office; U.S. DEPARTMENT OF COMMENCE

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| DIVISIONAL REISSUE APPLICATION DECLARATION B | Y THE ASSIGNEE | Docket Number (optional) | | | | |
|--|----------------------------|-----------------------------|--|--|--|--|
| | | MAT-3720US3 | | | | |
| I hereby declare that: | | | | | | |
| My residence and post office address and citizenship a | | • | | | | |
| I am authorized to act on behalf of the following assigne | e: Matsusmia Electric I | ndustrial Co., Ltd. | | | | |
| and the title of my position with said assignee is: | | | | | | |
| The entire title to the patent identified below is vested in | said assignee. | | | | | |
| Name of Patentee(s): Ryoichi Imanaka | | | | | | |
| Patent Number 5,790,172 | Date of Patent Issued | | | | | |
| 3,770,172 | Aug | rust 4, 1998 | | | | |
| Title of Invention | DADAMIC AND DESCRIPTION | | | | | |
| SERVER APPARATUS, SUBSCRIBER AP | PARATUS AND INFORM | ATION ON DEMAND SYSTEM | | | | |
| I believe said patentee(s) to be the original, first and sol | e/joint inventor(s) of the | subject matter which is | | | | |
| described and claimed in said patent, for which a reissu | | | | | | |
| SERVER APPARATUS, SUBSCRIBER APPARATU | <u>S AND INFORMATIO</u> | N ON DEMAND SYSTEM | | | | |
| the specification of which | | | | | | |
| is attached hereto. | | | | | | |
| was filed on as reissue application number | | | | | | |
| and was amended on(If applicable) | | | | | | |
| I have reviewed and understand the contents of the abo amended by any amendment referred to above. | ve identified specificatio | n, including the claims, as | | | | |
| I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56. | | | | | | |
| I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.) | | | | | | |
| by reason of a defective specification or drawing. | | | | | | |
| by reason of the patentee claiming more or less than he had the right to claim in the patent. | | | | | | |
| by reason of other errors. | | | | | | |
| At least one error upon which reissue is based is described as follows: | | | | | | |
| During the prosecution of the application that issued as the above patent, the inventor, Ryoichi Imanaka, did not recognize that the features disclosed at column 2, lines 53-63 and column 7, lines 20-35 were appropriate to claim. As such, Mr. Imanaka did not claim all that he had a right to claim. This error was made without deceptive intent. | | | | | | |
| [Attach additional she | ets, if needed.] | | | | | |
| All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant. | | | | | | |
| | | | | | | |

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PTO/SB/52 (08-99)
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| Division (REISSUE APP | | N DECL | ABATION | DV THE | ASSIGNI | == ^- | 200 2 | , | Docket N | lumber | (Optional) | |
|---|--|--|---|-------------------------------------|--|----------------------------|--------------------------|-----------------------------|------------------------------|-----------------------------|----------------|---|
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| I hereby appoint all business in th Name(s) Lawrence E. Jacques L. H | Ashery | t and Trad | rney(s) and demark Off | ice conn | t(s) to proected their Registration 34,515 41,738 | rewith | | appli | | | | |
| Correspondence | Addres | s: Direct a | all commun | ications | about the | applic | cation | to: | | | | _ |
| Customer N | umber | | | | | | | > | | e Cust ber Ba | omer r Code | |
| OR | | Type | Customer I | Number | Here | | | | Labe | l Here | | |
| Firm or Individual Name | Ratner | & Prestia | l | | | | | | | | | |
| Address | P.O. B | ox 980 | | | | | | | | | | |
| Address | | | | | | · | | | | | | |
| City | Valley | Forge | | | | Sta | ate | PA | | Zip | 19482 | |
| Country | | | | | | | | | | | | |
| Telephone | (610) | 40 7-070 0 | | | | Fa | x | (610 |) 407-(| 701 | | - |
| I hereby declare statements made were made with fine and imprisor jeopardize the vadeclaration is dir | e on infor the know nment, o alidity of | rmation ar /ledge tha r both, un | nd belief ar it willful fals der 18 U.S | e believe se staten .C. 1 001 | ed to be transition to be to be the transition to the transition to the transition to be transitional to be transitional to be transition to be transitional to be transitiona | ue; an the li t such | d fur ke so willfi | ther the made al fals | at thes are pu e state | e state inishat nents | ole by may | |
| Full name of per | _ | | name, fam | nily name |) | | | | | | | |
| <u>Or. Osamu Yam</u> Signature | azaki, D | irector | | | | | Dat | e | | | | |
| Address of Assi | | 06, Oaza saka 571 | | , Kadom | a-shi | | | · | | | | |
| Patentee | | | Citizenship | | | | | | | | | |
| | oichi In | | 200130 | (T) 1 · | 7 | | | Jap | anese | | | |
| Residence/Post | | | | | = | | | | | | | |
| Post Office Addres Patentee | s. 3-2-0, K | Luzuna Mis | aki, fiirakata | a-sm ₂ Osal | м 3/3 Jap | an | Citi | zensh | ip | | | |
| Residence/Post | Office A | ddress | | | | | <u></u> | | | | <u>.</u> | |

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DECLARATION

REGISTERED PRACTITIONER INFORMATION (Supplemental Sheet)

| Name | Registration Number | Name | Registration Number |
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| James C. Simmons | 24,842 | | |
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| Robert L. Andersen | 25,771 | | |
| Daniel N. Calder | 27,424 | | |
| Louis W. Beardell, Jr. | 40,506 | | • |
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DIVISIONAL REISSUE APPLICATION BY THE ASSIGNEE, OFFER TO SURRENDER PATENT

Docket Number (Optional)

| OFFER TO SURRENDER PATE | MAT | -3720US3 | | | |
|--|--------------------------|----------------------------|--|--|--|
| | | | | | |
| This is part of the application for a reissue patent bas | ed on the original paten | t identified below. | | | |
| Name of Patentee(s): | | | | | |
| Ryoichi Imanaka | | | | | |
| Patent Number | Date Patent Issued | | | | |
| 5,790,172 Title of Invention | August 4, 1998 | | | | |
| SERVER APPARATUS, SUBSCE DEMAND SYSTEM | IBER APPARATUS A | ND INFORMATION ON | | | |
| Matsushita Electric Industrial Co., Ltd. is the assi | nee of the entire intere | st in the original patent. | | | |
| X A certificate under 37 CFR 3.73(b) is attached | | | | | |
| l am authorized to act on behalf of the assignee. | | - | | | |
| I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application, any patent issued thereon, or any patent to which this declaration is directed. | | | | | |
| Name of assignee | | | | | |
| Matsushita Electric Industrial Co., Ltd. | | | | | |
| Signature of person signing for assignee | Date | | | | |
| Typed or printed name and title of person signing for assignee | | | | | |
| Dr. Osamu Yamazaki | Director | | | | |
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ASSENT BY ASSIGNEE FOR FILING OF REISSUE APPLICATION (DIVISIONAL)

This is part of the application for a reissue patent filed herewith based on the original patent identified as follows:

Name of Patentee: Matsushita Electric Industrial Co., Ltd.

Patent Number: 5,790,172 Date Patent Issued: 08/04/1998

Title of Invention: SERVER APPARATUS, SUBSCRIBER APPARATUS AND INFORMATION ON

DEMAND SYSTEM

I am an assignee owning an undivided interest to the above original patent.

I assent to the accompanying application for reissue.

Attached is a "Certificate under 37 C.F.R. section 3.73(b)"

| Matsushita Electric Industrial Co., Ltd. | |
|--|-------|
| • | |
| Signature of person signing for assignee | Date: |

Dr. Osamu Yamazaki Director